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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,451

07/27/2006

Ryuichiro Amano

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EXAMINER

ZOLLINGER, NATHAN C

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

03/07/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,451	Applicant(s) AMANO, RYUICHIRO	
	Examiner NATHAN ZOLLINGER	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/27/2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Prosecution Reopening

In view of the Appeal Brief filed on February 1, 2010 PROSECUTION IS HEREBY REOPENED. A newly submitted Non-Final Office Action is set forth below which addresses the most recent version of Applicant's amendments, which currently embody claims 5-6.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Devon C Kramer/

Supervisory Patent Examiner, Art Unit 3746.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the crushed projection of claims 1 and 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Compressor with an oil separation plate and method of plate installation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gaylord (US 371,884) in view of Eckler (US 2,196,144).

Claim 5: Gaylord discloses a method of plate installation comprising mounting a plate member (A) on a supporting base plate (base of B) by fitting a projection (projection of B & C) of the supporting base plate into a through hole (hole of A) of the plate member to project a top end part of the projection from the through hole, the supporting base plate having a projection with a cone-shaped recess (b) on an upper face of the projection; and crushing (Fig. 5) a projected part of the projection from the through hole except for a portion of the cone-shaped recess on the projection by applying a downward pressing force to the projected part so as to integrate the plate

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member with the supporting base plate such that a bottom portion of the cone-shaped recess exists in a state of the projection being crushed (Fig. 5).

Gaylord does not disclose a projection made of aluminum alloy. Eckler teaches making a rivet projection from aluminum (page 2, lines 47-50). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make Gaylord's projection from aluminum as taught by Eckler to realize weight savings from this lightweight metal.

Gaylord also does not disclose a cone-shaped recess having Applicant's precise dimensions (an opening diameter of 50% of an outer diameter of the projection and a depth of 10 to 15% of the outer diameter of the projection). Nevertheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make a slightly shallower and narrower conical depression (b), since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. One having ordinary skill in the art would not view the conical depression in Gaylord having a fixed size; rather, as discussed in Gaylord, the depression is sized only to center a crushing/swaging ("upsetting") tool, which tools can vary widely in size. A skilled craftsman would know, then, to vary the size of this depression to conform to the size of a given crushing head. Moreover, he/she would also know to adjust/optimize this depression size such that not too little or not too much material bulged around the hole after a crushing procedure. A depression made too large will cause too little material to form the fastening bulge and the rivet could easily break; a depression made

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too little and it becomes very hard to center the crushing tool and adds unnecessary surplus metal into the fastening bulge.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neill (US 3,505,923) in view of Eckler (US 2,196,144).

Claim 5: Neill discloses a method of plate installation comprising mounting a plate member (58 OR 56) on a supporting base plate (base of 10) by fitting a projection (12) of the supporting base plate into a through hole (62 OR 60) of the plate member to project a top end part of the projection from the through hole, the supporting base plate having a projection with a cone-shaped recess (18) on an upper face of the projection; and crushing (Fig. 7) a projected part of the projection from the through hole except for a portion of the cone-shaped recess on the projection by applying a downward pressing force to the projected part so as to integrate the plate member with the supporting base plate such that a bottom portion of the cone-shaped recess exists in a state of the projection being crushed (Fig. 5, Examiner notes that the bottom of recess 18 still “exists” in the physical world but is just displaced into another shape).

Neill does not disclose a projection made of aluminum alloy. Eckler teaches making a rivet projection from aluminum (page 2, lines 47-50). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make Neill’s projection from aluminum as taught by Eckler to realize weight savings from this lightweight metal.

Neill also does not disclose a cone-shaped recess having Applicant’s precise dimensions (an opening diameter of 50% of an outer diameter of the projection and a

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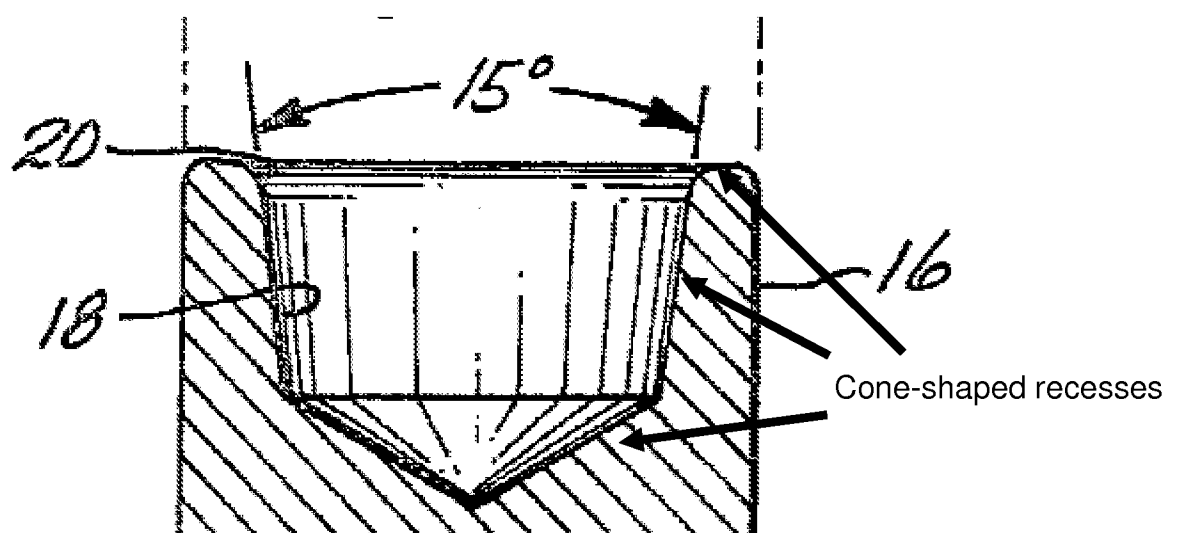
depth of 10 to 15% of the outer diameter of the projection). Nevertheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make a slightly shallower and narrower conical recess, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. One having ordinary skill in the art would not view the conical depression in Neill having a fixed size; rather the depression would be sized to center various crushing/swaging tools, as well as to control the amount of material that bulges out around the hole to fix the rivet. A skilled craftsman would know, then, to vary the size of this depression to conform to the size of a given crushing head. Moreover, he/she would also know to adjust/optimize this depression size such that not too little or not too much material bulged around the hole after a crushing procedure. A depression made too large will cause too little material to form the fastening bulge and the rivet could easily break; a depression made too little and it becomes very hard to center the crushing tool and adds unnecessary surplus metal into the fastening bulge.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hufnagl (US 4,221,041) in view of Eckler (US 2,196,144).

Claim 5: Hufnagl discloses a method of plate installation comprising mounting a plate member (24) on a supporting base plate (12 OR 12 & 26) by fitting a projection (16) of the supporting base plate into a through hole (28) of the plate member to project a top end part of the projection from the through hole, the supporting base plate having a projection with a cone-shaped recess (Examiner notes several candidates depicted

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below which are on an “upper face” of the projection) on an upper face of the projection; and crushing (Fig. 4) a projected part of the projection from the through hole except for a portion of the cone-shaped recess on the projection by applying a downward pressing force to the projected part so as to integrate the plate member with the supporting base plate such that a bottom portion of the cone-shaped recess exists in a state of the projection being crushed (Fig. 4). Hufnagl also discloses a cone-shaped recess having an opening diameter of about 50% of an outer diameter of the projection and a depth of 10 to 15 % of the outer diameter of the projection (Examiner chooses the bottommost recess which is about 50% of the OD and which has a depth of around 15% the OD).



Hufnagl does not disclose a projection made of aluminum alloy. Eckler teaches making a rivet projection from aluminum (page 2, lines 47-50). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make Gaylord's projection from aluminum as taught by Eckler to realize weight and price savings from this lightweight metal.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muramatsu (US 4,717,316) in view of Burns (US 4,388,756) and in further view of Hufnagl (US 4,221,041).

Claim 6: Muramatsu discloses a compressor comprising a closed container (Fig. 1); a compressor element section (3) housed in a lower portion of the closed container; and an electric motor element section (2) housed in an upper portion of the closed container and including a rotor (6) having an upper end surface, a stator (11) disposed on an outer periphery of the rotor, an end plate (7) provided on the upper end surface of the rotor, and an oil separation plate (9) installed on the end plate and forming a through hole (9e), the end plate including a main section (7) and a projection (8) projecting from the main section and fitted in the through hole, the main section including a base section (see Figure 3, below) placed on the upper end surface of the rotor and an installation section (see centrally located “Installation Section” rectangle in Fig. 3, below) provided on a center portion of an upper face of the base section, the projection projecting upward from an upper face of the installation section, the oil separation plate including a central part (see “Central Part” rectangle in Fig. 3, below) having the through hole and a peripheral part (9b) opposed to and spaced from the upper face of the base section of the end plate, the projection of the end plate including a projected part (portion of 8 inserted into 9e) projected from the through hole of the oil separation plate.

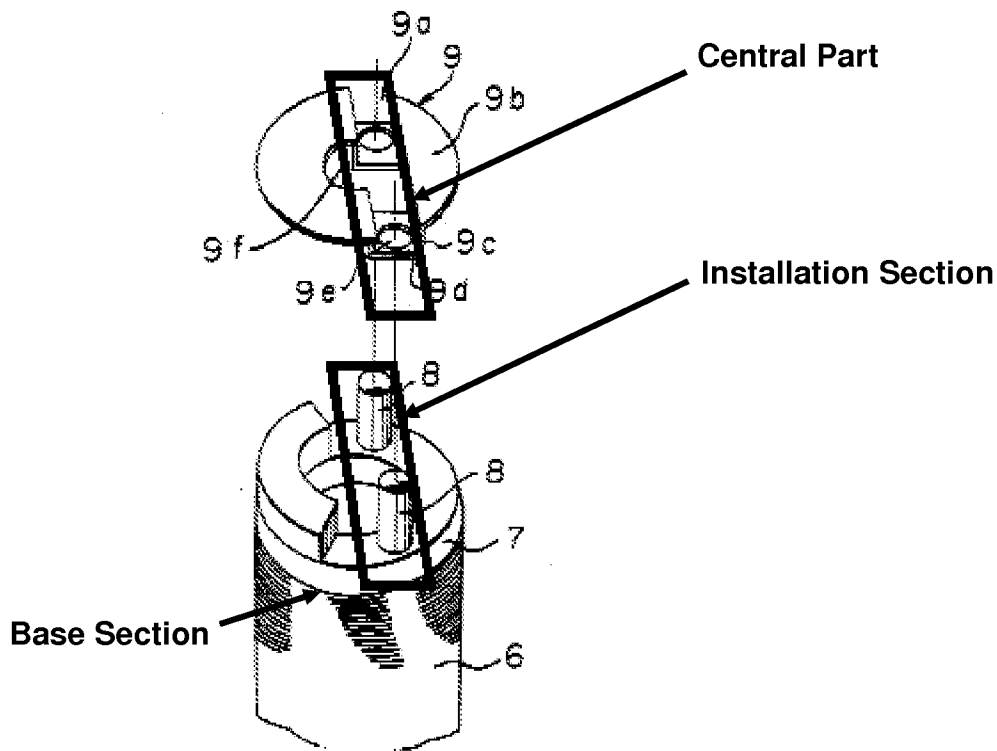
Muramatsu discloses integrating the projection of the end plate with the oil separation plate but does not disclose crushing the projection to integrate it with the plate. Burns discloses integrating a compressor plate with a projection by crushing the

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projection (col. 6, lines 1-3). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to crush the projections of Muramatsu over the separation plate as described by Burns in order to create a more permanent attachment of the plate with the projection as well as use less parts/materials since the projection itself would act as the fastener.

Muramatsu also does not disclose a projection with a cone-shaped recess with a diameter that gradually decreases downward on an upper face of the projection. Hufnagl teaches connection device in which a rivet projection possesses a cone-shaped recess that gradually decreases downward on an upper face of a projection (Examiner notes several candidates depicted above). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ a cone-shaped recess as taught by Hufnagl in order to limit the outward pressure of the projection upon the clamped body (in the case of Muramatsu, it would be the separation plate; see col. 1, lines 55-58). Hufnagl also discloses a cone-shaped recess having an opening diameter of about 50% of an outer diameter of the projection and a depth of 10 to 15 % of the outer diameter of the projection (Examiner chooses the bottommost recess which is about 50% of the OD and which has a depth of around 15% the OD).

FIGURE 3



Response to Arguments

Applicant's arguments with respect to claims 5-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN ZOLLINGER whose telephone number is 571-270-7815. The examiner can normally be reached on Monday - Thursday, 9 a.m. - 4 p.m. EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/N. Z./
Examiner, Art Unit 3746